

WHAT IS CLAIMED IS:

- 1 1. A method of inhibiting the generation of active thrombin on the  
2 surface of a cell of a mammal, the method comprising producing an ER resident  
3 chaperone protein in said cell.
- 1 2. The method of claim 1, wherein said cell is an endothelial cell.
- 1 3. The method of claim 1, wherein said cell is a smooth muscle cell.
- 1 4. The method of claim 1, wherein said cell is a macrophage.
- 1 5. The method of claim 1, wherein said cell is a monocyte.
- 1 6. The method of claim 1, wherein said ER resident chaperone protein  
2 is GRP78/BiP.
- 1 7. The method of claim 1, wherein said ER resident chaperone protein  
2 is selected from the group consisting of GRP94, GRP72, Calreticulin, Calnexin, Protein  
3 disulfide isomerase, cis/trans-Prolyl isomerase, and HSP47.
- 1 8. The method of claim 1, wherein the production of said ER resident  
2 chaperone protein within said cell results in a decrease in the level of tissue factor  
3 procoagulant activity on the surface of said cell.
- 1 9. The method of claim 1, wherein said cell is present within said  
2 mammal.
- 1 10. The method of claim 9, wherein said cell is present within an  
2 atherosclerotic plaque in said mammal.
- 1 11. The method of claim 1, wherein a polynucleotide encoding said ER  
2 resident chaperone protein, operably linked to a promoter, is introduced into said cell,  
3 whereby said ER resident chaperone protein is produced.
- 1 12. The method of claim 11, wherein said polynucleotide is introduced  
2 into said cell using a viral vector.

09/09/2010

SUB  
C1

1 13. The method of claim 12, wherein said viral vector is an adenoviral  
2 vector.

1 14. The method of claim 11, wherein said polynucleotide is introduced  
2 into said cell using a nonviral vector.

1 15. The method of claim 14, wherein said nonviral vector is introduced  
2 into said cell as naked DNA or using liposome-mediated transfection.

1 16. The method of claim 1, wherein said ER resident chaperone protein  
2 is produced by administering to said cell a compound that induces the expression or  
3 activation of an endogenous ER resident chaperone protein.

1 17. The method of claim 16, wherein said compound is a cytokine.

1 18. A method of preventing or treating a thrombotic disease or  
2 condition in a mammal, the method comprising producing an ER resident chaperone  
3 protein within a population of cells of said mammal, whereby the generation of active  
4 thrombin on the surface of said population of cells is inhibited.

1 19. The method of claim 18, wherein said population of cells  
2 comprises endothelial cells.

1 20. The method of claim 18, wherein said population of cells  
2 comprises smooth muscle cells.

1 21. The method of claim 18, wherein said population of cells  
2 comprises macrophages.

1 22. The method of claim 18, wherein said population of cells  
2 comprises monocytes.

1 23. The method of claim 18, wherein said ER resident chaperone  
2 protein is GRP78/BiP.

1 24. The method of claim 18, wherein said ER resident chaperone  
2 protein is selected from the group consisting of GRP94, GRP72, Calreticulin, Calnexin,  
3 Protein disulfide isomerase, cis/trans-Prolyl isomerase, and HSP47.

1                   25.     The method of claim 18, wherein the production of said ER  
2     resident chaperone protein within said population of cells results in a decrease in the level  
3     of tissue factor procoagulant activity on the surface of said population of cells.

1                   26.     The method of claim 18, wherein said population of cells is present  
2     within an atherosclerotic plaque in said mammal.

1                   27.     The method of claim 18, wherein said mammal has had a  
2     myocardial infarction and is undergoing angioplasty or stenting.

1                   28.     The method of claim 27, wherein said mammal is undergoing  
2     stenting, and said population of cells is present on the surface of a stent within said  
3     mammal.

1                   29.     The method of claim 18, wherein said mammal is undergoing  
2     cranial radiation.

1                   30.     The method of claim 18, wherein said mammal is undergoing  
2     vascular surgery.

1                   31.     The method of claim 18, wherein a polynucleotide encoding said  
2     ER resident chaperone protein, operably linked to a promoter, is introduced into said  
3     population of cells, whereby said ER resident chaperone protein is produced.

1                   32.     The method of claim 31, wherein said polynucleotide is introduced  
2     into said cell using a viral vector.

1                   33.     The method of claim 32, wherein said viral vector is an adenoviral  
2     vector.

1                   34.     The method of claim 31, wherein said polynucleotide is introduced  
2     into said cell using a nonviral vector.

1                   35.     The method of claim 34, wherein said nonviral vector is introduced  
2     into said cell as naked DNA or using liposome-mediated transfection.

5411  
TO THE "OSCE"

1                   36.     The method of claim 18, wherein said ER resident chaperone  
2 protein is produced by administering to said population of cells a compound that induces  
3 the expression or activation of an endogenous ER resident chaperone protein.

1                   37.     The method of claim 36, wherein said compound is a cytokine.

1                   38.     A method of identifying a compound that is useful in the treatment  
2 or prevention of a thrombotic disease or condition, the method comprising:

3                   (1) contacting a cell that expresses an ER resident chaperone protein, or  
4 that is capable of expressing an ER resident chaperone protein, with said compound; and

5                   (2) detecting the functional effect of said compound on said ER resident  
6 chaperone protein;

7                   wherein an increase in the expression or activity of said ER resident  
8 chaperone protein in said cell indicates that said compound would be useful in the  
9 treatment or prevention of said thrombotic disease or condition.

1                   39.     The method of claim 38, wherein said ER resident chaperone  
2 protein is GRP78/BiP.

1                   40.     The method of claim 38, wherein said ER resident chaperone  
2 protein is selected from the group consisting of GRP94, GRP72, Calreticulin, Calnexin,  
3 Protein disulfide isomerase, cis/trans-Prolyl isomerase, and HSP47.

1                   41.     The method of claim 38, wherein said cell is an endothelial cell.

1                   42.     The method of claim 38, wherein said cell is a smooth muscle cell.

1                   43.     The method of claim 38, wherein said cell is a macrophage.

1                   44.     The method of claim 38, wherein said cell is a monocyte.

1                   45.     The method of claim 38, wherein said compound induces said  
2 expression or activation of said ER resident chaperone protein in said cell without  
3 inducing ER stress in said cell.

1 46. A method of treating or preventing a thrombotic disease in a  
2 mammal, the method comprising administering to said mammal a therapeutically or  
3 prophylactically effective amount of a compound identified using the method of claim 38.

[illegible]